VOL. XXIV. October, 1897. No. 10.

THE
Journal
OF
Nervous and Mental Disease

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-third Annual Meeting, held at St. John's Parish Hall, Washington, D.C., May 4th, 5th, and 6th, 1897.

The President, Dr. M. A. Starr, in the chair.

A CASE OF SYRINGOMYELIA WITH TRUNK ANESTHESIA.

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Mr. N., aged forty-four, of good habits and negative family history, was sent to me January 16th, 1897, when the following notes were taken. With the exception of slight chronic rheumatism, which has affected his left leg on and off for about twenty years, but which never disabled him, he was perfectly well until ten years ago. While he was at work, a heavy weight came down upon his shoulders, bending him forward and straining his back, and at the same time he was pressed in the abdomen by some implement. The injury was not very severe, as he resumed work in a day or two, but his back was troublesome for some time afterward, and it has not been as strong since. About six months after this accident he began to be aware of some clumsiness and weakness of the legs, and noticed that they tired more easily than before. This disability gradually increased, and about a year ago the hands began to show some weakness, which has also grown more pronounced, although he has been able to continue his work of repairing cars. Sensory symptoms have been wanting, except discomfort in the back, sometimes amounting to pain. He now has considerable difficulty in walking. The gait is typically spastic, with some uncertainty, and the muscles of the lower extremities are slightly paretic. The arms are reasonably strong in proportion to the muscular development, but the grasp is below normal and the interossei are decidedly weak, more so in the left hand. There

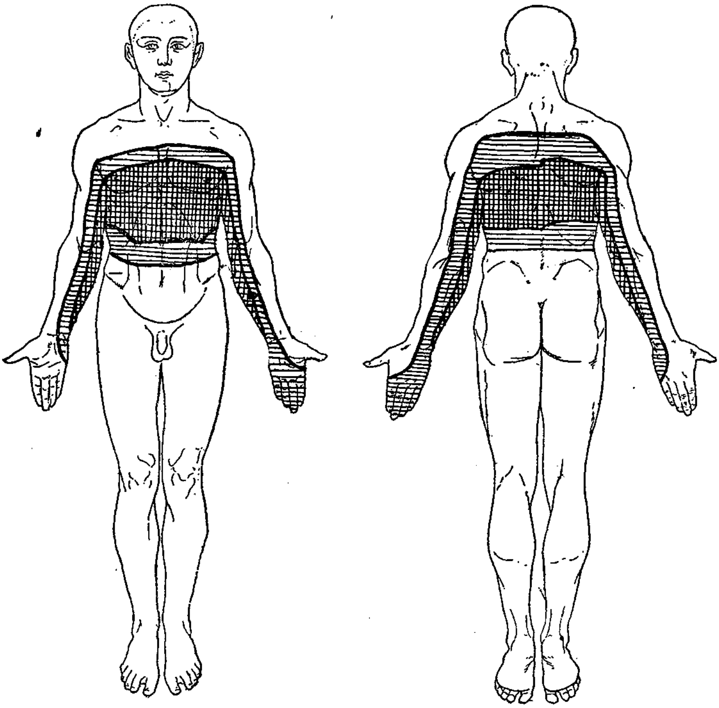


Fig. I. Fig. II.

SYRINGOMYELIA.

Perpendicular shading—anesthetic areas.
Horizontal shading—analgesic areas.

is beginning atrophy in the small muscles of both hands, more distinct on the left side, and these muscles show partial reaction of degeneration. No atrophy is discoverable elsewhere, except high up in the back, where partial reaction of degeneration is also found. In one of these muscles, the supraspinatus, there is the myotatic contraction that is almost exclusively found in Thomsen's disease. That is, after momentary stimulation the muscular contraction persists for several seconds, causing an almost tumor-like swelling of the affected muscle. So far as I know, this has never been described as occurring in syr-

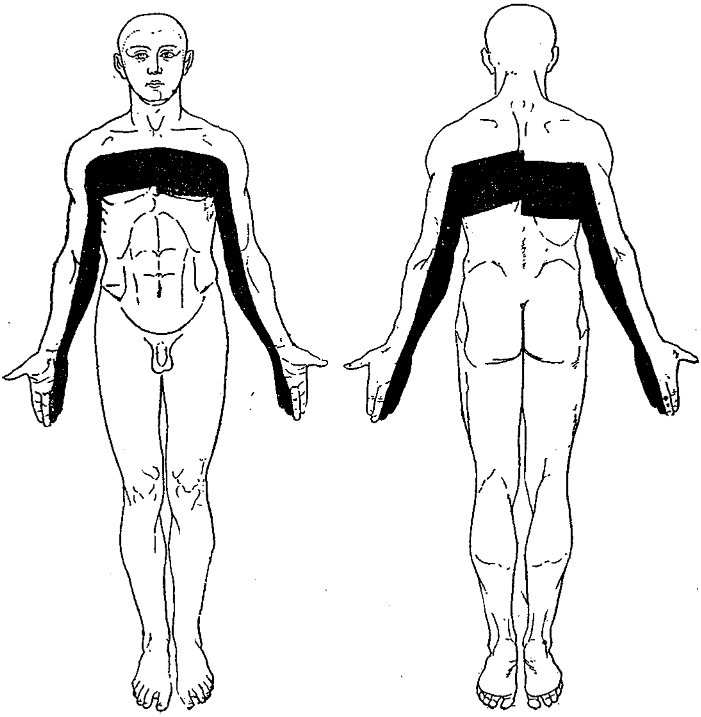
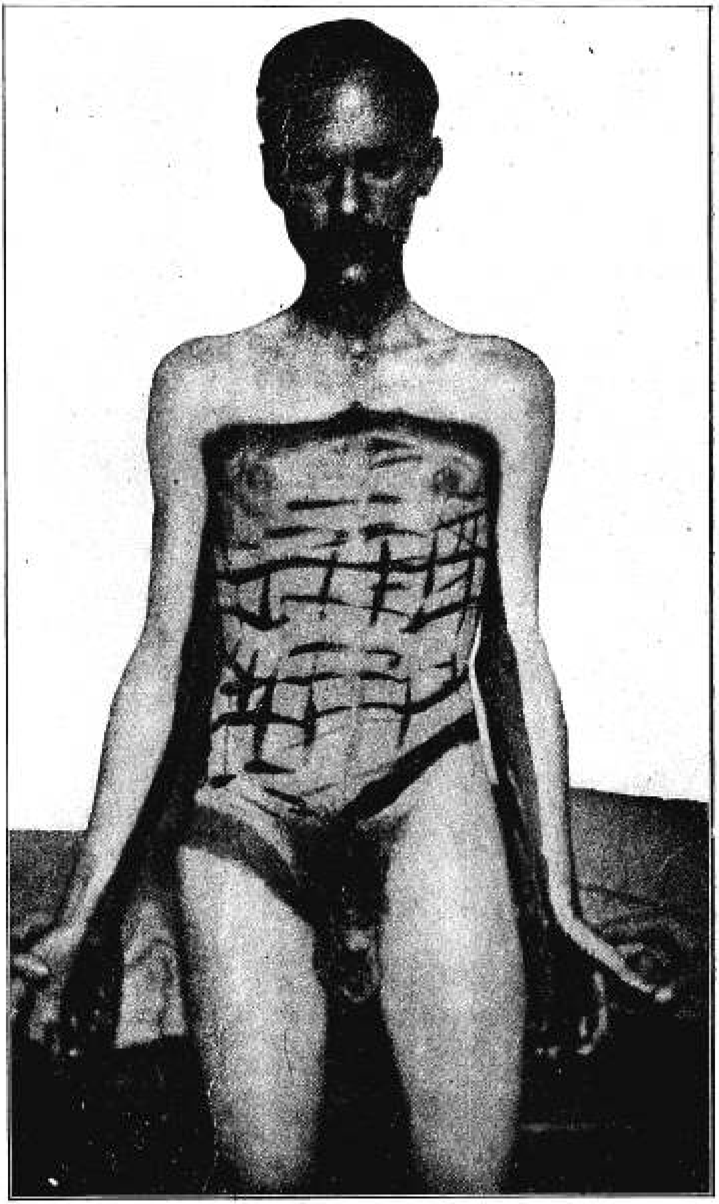


FIG. III. FIG. IV.

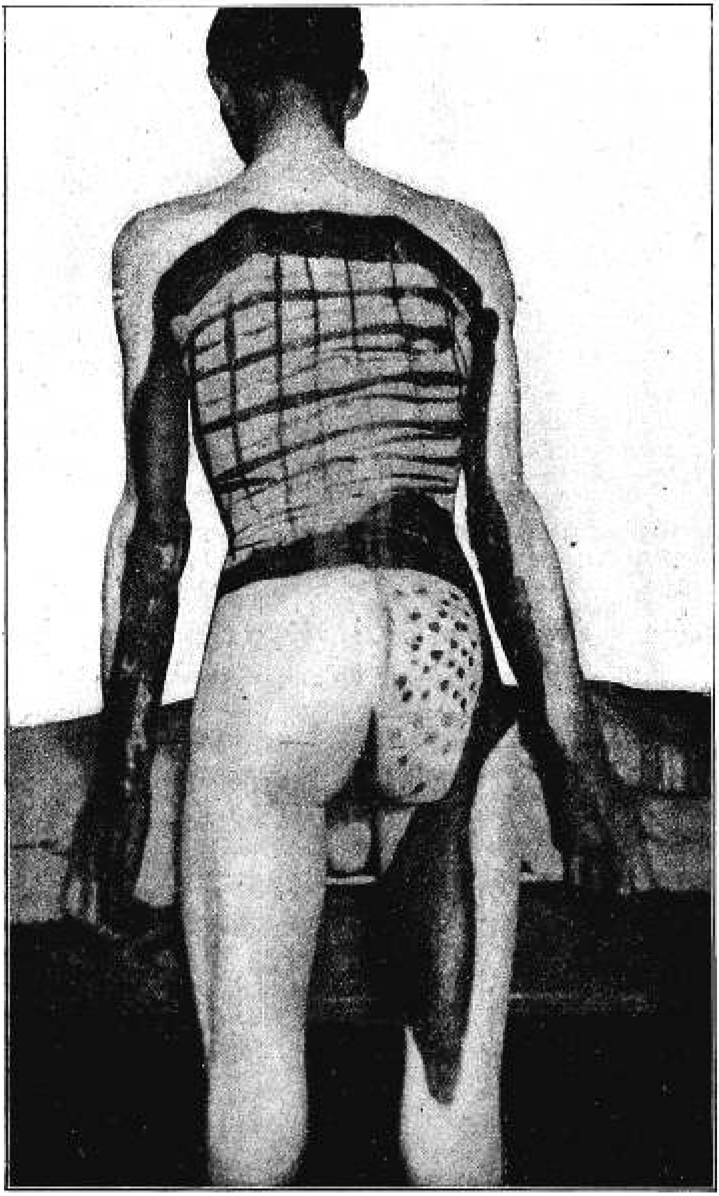
TABES.

Shading indicates the anesthesic areas. Analgesia was limited to a very narrow zone along the middle of the anesthetic areas.



TABES.

Stained surface indicates area of tactile anesthesia. Analgesia was limited to a much narrower zone.



TABES.

Stained surface indicates area of tactile anesthesia. Analgesia was limited to a much narrower zone.

ingomyelia. The knee jerks are greatly exaggerated and foot clonus is well marked. The left wrist tap is scarcely obtainable, the right is very distinct. The cranial nerves and visual fields are normal.

It is, however, the sensory symptoms of the patient that seem to me to be of particular interest. Indeed, it is for them alone that I report the case. The tactile sense is normal, except for a band of anesthesia about the trunk, extending in front from the third intercostal space to about four inches above the umbilicus, and behind from the third dorsal spine to the interval between the tenth and eleventh spines. The zone is rather wider in front than behind, and slightly lower on the left side. This anesthetic band extends onto the inner surface of the arms, embracing, perhaps, one-third of the circumference above, and tapering downwards to gradually disappear, somewhere between the middle of the forearm and the wrist. It is impossible to define the borders exactly. There is loss of pain and temperature sense in an area that covers the forementioned anesthetic region and overlaps it by about four inches on the trunk and one or two inches on the arms; extends below the wrist on the right side, and involves most of the hand on the left. (Figures I. and II.) There is also some diminution of the temperature sense over the left hip and thigh, but it is so very slight in degree and uncertain in extent that no distinct area could be outlined.

In a short paper on trunk anesthesia in tabes[2] I surmised the possibility of a similar condition occurring in syringomyelia, and, indeed, Laehr[3] has described it, more or less typical, in seven cases of this disease. None of them, however, showed it in such a striking way as does this one of mine.

The symptom seems to me to be very suggestive. In tabes we have a lesion that causes anesthesia and anal-

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[2] New York Medical Journal, Feb. 6th, 1897.

[3] Arch. f. Psych. u. Nerv., 1896. Band XXVIII., Heft 3.

gesia corresponding to spinal segments (Figures III. to VI.), the anesthesia being much greater in area than the analgesia. In syringomyelia exactly the same distribution may be found, but reversed qualitatively; that is, the analgesia is more extensive than the tactile anesthesia.

DISCUSSION.

Dr. Sachs—I was intensely interested in Dr. Knapp's paper, and I think we are all under obligations to him for bringing the matter before us in such a lucid way. I have been struck within the past year by a definite group of cases which were distinctly of spinal origin, in which there was a considerable amount of anesthesia; and I have also been struck by the fact that in these cases the anesthesia was not of the spinal type, while every other symptom was entirely in keeping with the diagnosis of spinal disease. I think on a first and hasty examination these cases might have been diagnosticated as syringomyelia, but I have very good reason to believe they are cases of syphilitic infection of the cervical portion of the cord. I have been particularly interested in the explanation which Dr. Knapp gave, because if this peculiar and idiopathic form is to be attributed rather to interference with the roots than to interference with the spinal cord, it would fall in much more readily with the supposition of a syphilitic process than with a supposition of syringomyelia. I believe there are cases of syphilis of the cervical portion of the cord. This special form of anesthesia has been spoken of as cerebral anesthesia, but I think, perhaps for the present, a better description for it would be a regional anesthesia, rather than cerebral.

The President—I have recently been over a large number of cases which have been published within the last four years on the subject of anesthesias in the body with definite lesions in the cord. I would call attention to the paper by Kocher, of Berne, describing seventy cases of localized injuries to the spinal cord, occurring in his practice, from fractures and dislocations; a paper of the greatest value,[1] and accompanied also by a diagram of the surface of the body, and with an attempt to limit the distribution of anesthesia in lesions of the various segments.

It seems to me difficult to lay down a definite diagram of the body as related to the areas of the cord. My work, four years ago, was only partially successful. The results of Head and of Kocher have been somewhat different from mine. It is a matter which requires further study, and I think that individual variations must be admitted, just as they have to be admitted in regard to the distribution of sensory nerves in the skin. At the same time it is well worth while to record these cases, because lesions in the cord are not absolutely level in their distribution, but are irregular in their distribution, and hence each case may differ from others. I think Dr. Knapp's diagrams are very ingenious ones.

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[1] Mittheilungen aus den Grenzgebieten der Med. u. Chirurgie I. 4.

Dr. Knapp—Of course, the ordinary term which has been used for these anesthesias, where the boundary is distinctively at right angles to the axis of the limb, is segmental, but that term is open to the objection that it might be referred to lesions of segments of the cord. Inasmuch as it is rather characteristic of some hysterical anesthesias, I applied the term cerebral to it, without meaning to imply anything in regard to the real origin of the trouble.

The diagram I claim no credit for; it is by Ballet.

We certainly see clinical variations in cases where the anesthesia is of the spinal type, and part of these variations may be due to the variations of anatomical distribution in individuals. In one case the first dorsal segment may supply the skin of the ulnar border of the forearm only, in another case it may also supply the skin on the ulnar border of the hand as well. But where, on the one hand, we see anesthesia that passes in ribbon-like strips down the hand and involves, perhaps, the thumb and the radial border of the hand in one case, and in another case the ulnar border of the hand and little finger, these anesthesias are clearly distinct in their type from those that stop short at the wrist like a glove. The origin of the latter seems to me still obscure, and Ballet's diagram explains only a part of them. In cases of tabes the diagram does not seem to be wholly satisfactory.

Dr. Theodore Diller read by title the following papers:

A CASE OF SYRINGOMYELIA,

A CASE OF ACUTE SOFTENING OF THE PONS.

Dr. F. X. Dercum read by title:

STUDIES IN SCLERODERMA.